

REMARKS

Attached hereto is an Excess Claims Fee letter and fee for excess total independent claims.

Claims 1-20 are all the claims presently pending in the application. Claims 14-20 have been added to claim additional features of the invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges that claims 2-12 would be allowable if rewritten to overcome the claim objections. Applicant believes the above claim amendments properly address these objections and requests that the Examiner reconsider and withdraw these objections.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over James et al. (U.S. Patent No. 6,389,547) in view of admitted prior art "Synchronizing Cycle Master to External Timing Information via Cycle Slave".

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

As described and defined, for example by claim 1, the present invention is directed to a network synchronization system for a network wherein a plurality of buses are connected in a tree-like configuration by means of a bridge which has a plurality of portals each of which has a function of a node of the IEEE 1394 standard and to each of which a single bus which complies with the IEEE 1394 standard is connected.

A network clock reference node functions as a reference clock source for the entire network and as a network cycle master as prescribed in the IEEE 1394 standard. One of the portals included in the network is set as the network clock reference node.

A local clock reference node is provided for each of the other of the plurality of buses other than the bus to which the network clock reference node is connected and serves as a local cycle master prescribed in the IEEE 1394 standard for the bus to which the local clock

reference node is not connected. One of the portals connected to each of the other buses of the plurality of buses which has the least number of hops of nodes up to the network clock reference node is set as the local clock reference node. The local clock reference node includes a module for synchronizing a cycle frequency thereof with a cycle frequency of the network clock reference node,

The network clock reference node and each local clock reference node exercise a role decision process to determine its timing role and to set itself up in its timing role.

Conventional systems fail to incorporate such role decision process.

An advantage of the present invention is that network synchronization is established without using a separate control signal for establishing bus synchronism even if conventional IEEE 1394 components are connected to the network.

II. THE PRIOR ART REJECTION

The Examiner alleges that James, further in view of Sato renders as obvious the present invention as defined by claim 1. However, James/Sato merely represent, at most, the timing interconnection of a typical 1394 bus network. Applicant submits, with multiple portals in each bridge node, that there is insufficient information in these two references to decipher which portal is actually used as the local clock reference portal (e.g., whether it is the portal having the least number of hops to the network reference node).

In contrast, the present invention provides that this timing interconnection has been established by a timing role decision process in which each bridge determines the timing role for each portal and sets up the portal in its timing role. This decision process ensures which of the portal gets selected for the local clock master. Neither James nor Sato teaches or suggests this approach. To highlight the significance of this feature and expedite prosecution, Applicant has clarified claim 1 for the Examiner's benefit.

Additionally, this technique allows network timing to occur without the need for a separate control signal. In one embodiment, a network administrator provides a manual input to determine which node serves as the network clock reference node. In another embodiment, the system can negotiate which node serves as the network clock reference node, thereby allowing the system to automatically configure its timing.

Hence, turning to the clear language of the claims, there is no teaching or suggestion in

James/Sato for: "... one of the portals connected to said each of the other buses of said plurality of buses which has the least number of hops of nodes up to said network clock reference node being set as said local clock reference node.... wherein said network clock reference node and each said local clock reference node exercise a role decision process to determine its timing role and to set itself up in its timing role", as required by claim 1.

For the reasons stated above, the claimed invention is fully patentable over the cited references.

Further, the other prior art of record has been reviewed, but it too, even in combination with James or Sato, fails to teach or suggest the claimed invention.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,



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